CLAIMS:

1. An integrated circuit (IC) comprising a network, the network comprising a plurality of routers ($R_1$, $R_2$ up to and including $R_x$), at least one of the routers comprising a plurality of input ports (102, 104, 106) arranged to receive input data (Input_1, Input_2, Input_3) corresponding to at least two traffic classes, the routers further comprising a plurality of queues (108a, 108b, 110a, 110b, 112a, 112b), the queues being arranged to store input data corresponding to a single traffic class, wherein the input ports are coupled to at least two of the queues, the routers further comprising a switch (700), characterized in that the switch (700) is arranged to receive input from the plurality of queues (108a, 108b, 110a, 110b, 112a, 112b) simultaneously.

2. An integrated circuit (IC) as claimed in claim 1, wherein a first selection (108a, 110a, 112a) of the queues is arranged to store input data corresponding to a high priority traffic class, and wherein a second selection (108b, 110b, 112b) of the queues is arranged to store input data corresponding to a low priority traffic class.

3. An integrated circuit (IC) as claimed in claim 2, wherein the first selection (108a, 110a, 112a) is deployed to provide guaranteed communication services in the network, and wherein the second selection (108b, 110b, 112b) is deployed to provide best-effort communication services in the network.

4. An integrated circuit (IC) as claimed in claim 1, further comprising a controller (100) which is coupled to the input ports (102, 104, 106) and coupled to the switch (700), the controller (100) comprising a plurality of arbiters, wherein the arbiters of at least one of the traffic classes implement a predetermined schedule.

5. An integrated circuit (IC) as claimed in claim 1, wherein the switch comprises a plurality of multiplexers (800, 802, 804), each multiplexer being coupled to an output port, and each one of the multiplexers being arranged to accept as input the input data stored in the queues (108a, 108b, 110a, 110b, 112a, 112b).

6. A method for avoiding starvation of data in an integrated circuit (IC) comprising a network, the network comprising a plurality of routers ($R_1$, $R_2$ up to and including $R_x$), at least one of the routers comprising a plurality of input ports (102, 104, 106) receiving input data (Input_1, Input_2, Input_3) corresponding to at least two traffic classes, the routers further comprising a plurality of queues (108a, 108b, 110a, 110b, 112a, 112b), wherein the queues store input data corresponding to a single traffic class, the input ports being coupled to at least two of the queues, the routers further comprising a switch (700), characterized in that the switch (700) receives input from the plurality of queues (108a, 108b, 110a, 110b, 112a, 112b) simultaneously.